National Aeronautics and Space Administration

MARSHALL STAR

Serving the Marshall Space Flight Center Community

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Moonbuggy Race champs no strangers to winners circle

A team from Carlisle County High School in Bardwell, Ky., competes during NASA's 16th annual Great Moonbuggy Race. A two-page photo spread about the race will appear in the April 16 edition of the Marshall Star.

By Rick Smith

Three teams – all previous champions – shared the top two trophies in NASA's 16th annual Great Moonbuggy Race, held April 3-4.

Rochester Institute of Technology in Rochester, N.Y., won the college division. Tying for first place in the high school division were Erie High School Team 2 from Erie, Kan., and the Huntsville Center for Technology Team 2 from Huntsville, Ala.

Rochester Institute and the Huntsville Center for Technology won the 2007 college and high school divisions, respectively. Erie won the high school division in 2008.

The winning teams, competing at the U.S. Space & Rocket Center, posted the fastest vehicle assembly and race times in their divisions and received the fewest on-course penalties. Erie High and the Huntsville Center for Technology finished the roughly half-mile course in just 3:25. Rochester posted a time of 3:30.

Other top winners: The University of Puerto Rico in Humacao won second place among college and university teams; and despite a late-race crash, the University of Wyoming

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Marshall engineers lauded for STS-119 contributions

Director's Commendation awarded to 24 employees for Discovery work

By Sanda Martel

David King, former director of the Marshall Space Flight Center, presented Director's Commendation Certificates to 24 center employees who helped make possible the launch of space shuttle Discovery on March 15.

The Director's Commendation Certificate – the highest award given at the Marshall Center – is presented to an individual whose job performance and/or special accomplishments merit recognition where other avenues of recognition are not sufficient.

"Your efforts directly and significantly contributed to the successful launch and flight of the STS-119 mission," King said to the solid rocket booster debris containment system redesign team and the flow control valve anomaly team. "Your extreme dedication to duty and work through the holiday season to meet the program schedule was outstanding." The event was held in Building 4203 on March 31.

Rodney Phillips, Steve Brewster, Manny Walker and Steve Brolliar, members of the solid rocket booster debris containment system redesign team, received certificates for significant contributions to the redesign of the hold-down post debris containment system. Their work led to development of hold down post retention blocks which will eliminate the possibility of debris on the launch pad during launch.

Their contribution was particularly significant, King said, because of the speed at which their work was

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Lowest lost-time rate in Marshall history achieved in 2008

By Jessica Wallace

The Marshall Space Flight Center made history in the 2008 fiscal year for achieving the fewest lost-time mishaps in its history, according to a new metrics report issued by the Safety, Health and Environmental Program, or SHE.

"The center experienced only three lost-time mishaps in 2008 that included any lost time due to injuries that required one or more days off work after the day of the incident," said Dennis Davis, branch chief of the Industrial Safety Branch in the Safety & Mission Assurance Directorate. Lost time is measured in rates, which is the number of injuries per 200,000 hours worked.

"We ended the year with a rate of 0.04, below our goal of 0.13," Davis said. "The Occupational Safety & Health Administration recorded that the national average among professional, scientific and technical services was 0.30. This is the best we've done."

OSHA is the main federal agency charged with the enforcement of safety and health legislation.

Marshall's SHE policy is broken down into three parts, each supporting mission success: safety, health and environmental. The center strives to prevent injury and ensure the safety of all operations and products; Marshall strives to prevent occupational illnesses and to promote and maintain the physical and mental well-being of its employees; and the center aims to provide a safe and healthful workplace for its employees.

The center reported 35 work-related injuries or illness mishaps to OSHA in 2008. Reporting a mishap to OSHA is required when a team member requires more than first aid treatment. "We set a rate goal of 0.64 injuries per 200,000 hours worked, and we ended with 0.52," said Ed Kiessling, manager of the Safety, Quality & Management Systems Department in the Safety & Mission Assurance Directorate. "This is well below the national average of 1.40."

Additional 2008 team metrics

Over the past three years, supervisors have sought to improve worker safety at Marshall by inspecting work areas closely. "This is a positive trend, because we've seen that more findings correlates to fewer mishaps," Kiessling said. He added that team members are great at attending monthly safety meetings. "We are up to 93 percent participation."

SHE also kicked off a seat belt campaign last April to remind everyone of the importance of wearing seat belts while driving or riding in motor vehicles. "As a result of this campaign, seat belt use increased across the Marshall Center by 11 percent," said Kiessling.

"We had a good year," Davis said. "To keep up our goals, we ask team members to please be aware of their surroundings. Continue to attend monthly safety meetings and complete the required SHE trainings through SATERN. With everyone's help, we can make next year even better."

To review Marshall's complete fiscal year 2008 SHE Program report or the 2009 goals, visit http://she.msfc.nasa.gov/. To complete required SHE training, visit https://satern.nasa.gov/.

Wallace, an AI Signal Research Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.

10 most common '08 safety findings during Marshall office inspections

1. Electrical panel circuit breakers not properly labeled
2. Slipping or tripping hazards
3. Fire extinguishers not inspected monthly
4. Area not maintained in orderly manner
5. Lack of personal appliance permits
6. Inoperative emergency lights
7. Exposed electrical wiring
8. Extension cords used in series
9. Improper or inadequate lockout/tagout to hazardous chemicals or equipment
10. Strain relief missing or defective on electrical cords

Top 10 Marshall team member onsite safety concerns in '08

1. Traffic/roadway issues
2. General facility issues
3. Occupational health concerns
4. Slip/trip/fall hazards
5. Electrical hazards
6. Emergency operation issues
7. Housekeeping
8. Lighting issues
9. Personal protection issues
10. Fire protection concerns

Moonbuggy *Continued from page 1*

in Laramie took home third place. Rookie competitors Arab High School in Arab, Ala., finished in second place in the high school division; and Huntsville Center for Technology Team 1 finished third.

Nearly 70 teams competed, representing 20 states, Puerto Rico, Canada, Germany, India and Romania.

The race challenges students to think like NASA engineers as they design, build and race lightweight, human-powered buggies. NASA hopes the experience will inspire them to help continue the nation's exploration mission in coming decades.

Race organizers at the Marshall Space Flight Center presented first-place winners in each division with a trophy depicting NASA's original lunar rover. The rover was designed and built by engineers at the Marshall Center for the Apollo moon missions of the early 1970s.

The first-place high school team also received $500 and a week at Space Camp, courtesy of race sponsors ATK Launch Systems of Huntsville. ATK awarded the second- and third-place high school teams $250 each. Race sponsor Northrop Grumman Corp. of Huntsville presented the winning college team with $5,700 in cash.

NASA also gave plaques and certificates to every team that came to Huntsville to race, and presented a number of additional awards (see full awards list below).

Apollo 15 astronauts David Scott and Jim Irwin piloted the first lunar rover across the moon's surface in July 1971. The rovers continued to chart new lunar territory during the Apollo 16 and Apollo 17 missions.

Today, student racers face design challenges similar to those overcome by Apollo-era rover engineers. Teams build their vehicles from the ground up, typically using bicycle or light motorcycle tires, aluminum or composite-metal struts and parts, and the best drive trains, gears, suspension, steering and braking systems they can find or devise.

"This year's race proved once again that offering students a unique challenge, such as building their own moonbuggy, can inspire and engage them – turning an engineering project into the best fun you can have on wheels," said Tammy Rowan, manager of the Marshall Center's Academic Affairs Office, which organizes the moonbuggy race each year.

The first Great Moonbuggy Race in 1994, commemorating the 25th anniversary of the Apollo 11 lunar landing, was open only to college teams. Eight teams participated. Two years later the event was expanded to include high school teams.

The race is hosted by the U.S. Space & Rocket Center, and sponsored by NASA's Space Operations Mission Directorate in Washington. This year, major corporate sponsorship was provided by Lockheed Martin, The Boeing Company, Northrop Grumman Corp., Teledyne Brown Engineering and Jacobs Engineering Science Technical Service Group, all of Huntsville.

For photos of race teams and more information about the event, visit http://www.nasa.gov/topics/moonmars/moonbuggy.html.

Smith, an ASRI employee, supports the Office of Strategic Analysis & Communications.

Additional moonbuggy awards

Best Moonbuggy Design
- Tudor Vianu National High School of Computer Science Team 2, Bucharest, Romania
- Tennessee Technological University, Cookeville, Tenn.

Best Rookie Design
- Kirorimal College, New Delhi, India

Most Straightforward Design
- University of Puerto Rico, Humacao

Most Unique Moonbuggy
- Erie High School, Erie, Kan.
- Tennessee Technological University Team 1

Best Performance by an International Team
- German Space Education Institute, Leipzig, Germany

NASA Safety Systems Award
- 1st place – Middle Tennessee State University, Murfreesboro
- 2nd place – Tennessee Technological
- Honorable mention – Kirorimal College

Pits Crew Award
- Elk Valley High School, Longton, Kan.
- Colorado School of Mines, Golden

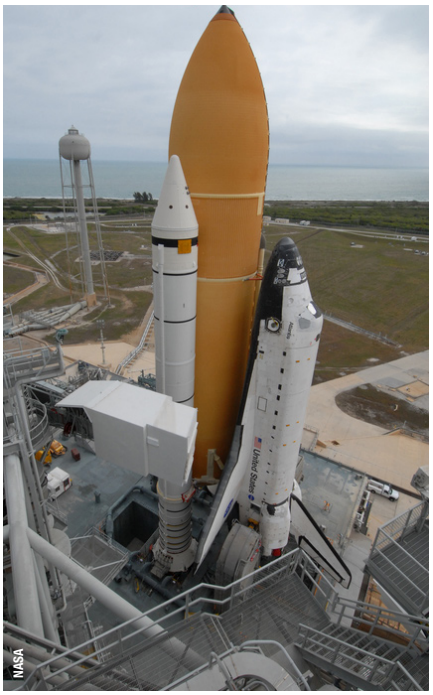
Crash and Burn Award
- The University of Wyoming, Laramie

Best Team Spirit
- Tudor Vianu National High School of Computer Science
- Colorado School of Mines

Rookie Award
- Arab High School, Arab, Ala.
- Colorado School of Mines

Most Improved Award
- German Space Education Institute
- Rochester Institute of Technology, Rochester, N.Y.

Space shuttle Atlantis at launch pad for STS-125 mission



Space shuttle Atlantis sits on the launch pad at the Kennedy Space Center in Florida after rollout on March 31. Shuttle Atlantis' flight, designated STS-125, is targeted to lift off May 12 on an 11-day mission to service NASA's Hubble Space Telescope. A crew of seven astronauts will perform five spacewalks to refurbish and upgrade the telescope with state-of-the-art science instruments that will expand Hubble's capabilities and its operational lifespan through at least 2014.

Obituaries

Bradley Carlson, 41, of Titusville, Fla., died April 5. He was working as a Marshall Center aerospace engineer. He is survived by his wife, Beckie L. Carlson.

William Bush, 83, of Huntsville died March 5. He retired from the Marshall Center in 1986 as an engineer.

Carlyle R. Smith, 79, of Huntsville died March 6. He retired from the Marshall Center in 1988 as an aerospace engineer. He is survived by his wife, Mary Helen Smith.

STS-119 *Continued from page 1*

performed – between the launch of space shuttle Endeavour on the STS-126 mission in November and the launch of the STS-119 mission, first scheduled in February. The employees were commended for giving up their holiday plans to complete their work.

During Endeavour's lift off in November, a solid rocket booster hold-down post debris containment system failed. A plunger and spring – that seal the blast container housing and prevents fragment release – exited the hold-down post during liftoff. This led to a program decision to develop a design that would ensure no loss of plunger and spring.

Members of the flow control valve anomaly team received certificates for technical excellence in accomplishing the successful launch of Discovery after four delays due to faulty flow control valves on the orbiter. Honored were Pete Mazurkivich, Elizabeth Holleman, Greg Frady, Clay Fulcher, Matt Casiano, Brian Richardson, Jeff West, Suren Singhall, Craig Bryson, Doug Wells, Wayne Gregg, Phillip Allen, Greg Jeman, Chad Bryant, Rene Ortega, Shawn Holcomb, Luke Henke, Becky Crownover, David Eddleman and Jim Richard.

Shuttle orbiters have three flow control valves – similar to small, pop-up lawn sprinklers – that keep pressure in the external fuel tank at proper levels during the shuttle's ascent. Extensive testing was ordered by NASA managers after one of the valves broke during the STS-126 launch in November. The broken valve didn't cause any problem, but managers wanted to ensure there would be no chance of breakage again. As a precaution, Discovery's valves were removed and replaced with valves which were inspected via nondestructive evaluation techniques.

Because of Marshall Center's engineering expertise, the orbiter team at the Johnson Space Center in Texas asked Marshall engineers to assist in the investigation by performing fluid dynamic and structural analyses; material and impact testing; fracture and failure analysis; and nondestructive evaluation, leading to development of flight rationale.

From left, Jim Owen, Shuttle Propulsion Office chief engineer; Dan Dumbacher, director of the Engineering Directorate; and David King, former director of the Marshall Center, display a poster of the completed International Space Station during the Director's Commendation awards ceremony March 31.

"You produced a tremendous product for the orbiter team," King said at the awards presentation. "Your work helped them understand the failure modes and hazards and to develop a sound flight rational."

Steve Cash, manager of the Shuttle Propulsion Office at the Marshall Center and deputy manager of the Space Shuttle Program, told the two teams that their accomplishment was a "significant contribution" to the space shuttle and space station programs.

"The impact to the space station would have been dramatic if the STS-119 mission had been delayed until after the Hubble Space Telescope mission launches in May," Cash said. "All of you are a part of my team, and because of you the shuttle is flying safely."

Dan Dumbacher, director of the Marshall Center Engineering Directorate, said the teams are valuable "not only to the agency and the space station, but to your country."

Martel, an ASRI employee, supports the Office of Strategic Analysis & Communications.

Local school superintendents to speak at Marshall Association luncheon April 15

Superintendents Ann Roy Moore of Huntsville City Schools, Dee Fowler of Madison City Schools and Terry Davis of Madison County Schools will speak at the Marshall Association luncheon April 15.

The meeting will be at 11 a.m. at the Rustic Lodge, Building 8998. They will discuss their respective school systems and take questions from the audience.

Lunch will be $13 for Marshall Association members and $15 for nonmembers. Team members planning to attend must contact Thea Baskerville-Brown at thea.c.baskerville@nasa.gov or call 544-5886 by noon April 10. Any cancellations after that date or no shows will be expected to pay.

Employees interested in joining the association can pay the $25 membership fee at the door April 15, or may contact Jennifer McCaghren, treasurer of the association, at jennifer.b.mccaghren@nasa.gov or call 544-5189. Membership is open to all members of the Marshall community.

Membership dues fund scholarships for college-bound children of association members. The association typically grants two or more awards annually. One is awarded to a student pursuing a technical degree in a field such as science, engineering or mathematics, and the second is awarded to a student majoring in a nontechnical field. Eligible applicants must be entering their freshman year of college this fall. The call for scholarship applications will be announced in the coming weeks.


Emmett Given/MSFC

The 2009 Marshall Association officers are from left, Markeeva Morgan, president; Jennifer McCaghren, treasurer; Sheila Nash-Stevenson, vice president for programs; and Annette Sledd, vice president for communications.

For a list of benefits and advantages of Marshall Association membership, or for a map to the Rustic Lodge, visit http://inside.msfc.nasa.gov/marshall_association/.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, April 16, is 4:30 p.m. Thursday, April 9.

Miscellaneous

Firewood, $80 per truckload. 755-0050

Utility trailer/car hauler, 6'x16', all metal, $700. 651-5847

MacBook Air, 1.8 Ghz, 80 GB HD, two years left on warranty, $900 firm. 651-7399

Indian Ring Neck parrot, green, 15 years old, speaks, hand tame, table, large cage, $100. 851-9108

Hoyt compound hunting bow, case, more, $300. 679-9400

Grandfather clock, needs to be calibrated, $250. 457-9126

Fisher Price School House Learning Station, for babies to sit and learn, $20. 658-5855

Treadmill, $300. 684-6006

Coke machine, $350; antique barber chair, $850; Thule rooftop bike racks, for two bikes, $250. 658-8241

44-inch Panasonic Slim-line Projection HDTV, $400. 457-5173

Broyhill white kitchen hutch, glass sides/doors/shelves, $325; five-piece white indoor wicker set, $350. 975-1667

Prom Dress, long, burgundy satin, silver sequin trim, adjustable, size 6. 541-4445

Star Wars talking bank, $15. 464-9408

Complete set of 18-inch wheels/run-flat tires, BMW 5 series, TPMS valves, $750. 655-9464

33 to 37-foot RV cover, $200; generator exhaust stack, $75. 509-9612

C&L Racer CAI, DiabloSport tuner, for 2005-2009 Mustang GT, $400. 616-2485

Dora the Explorer "Pull String" piñata, already filled, $20. 679-8110

Couch, love seat, $225; entertainment center, $35; TV stand, $25; more. 682-5938

Jet3 by Pride electric wheelchair scooter, $1,200. 533-7234

Vehicles

2008 Blue Honda Accord Coupe, EXL-V6, loaded, leather, ground effects, multi-CD/XM/iPod, 9k miles, $24,900. 604-9951

2005 Ford Five Hundred Limited, AWD, leather, power moon roof, 44k miles, $12,500. 975-1667

2004 Ford Ranger XLT FX4, 4WD, camper shell, loaded, leather, tow package, 46k miles, $13,900. 679-2052

2001 Procraft Pro 185, 175 EFI Mercury, $10,000. 520-4028

2000 Ford F250 Super Duty, 5.4L V8, 4x4, AC, standard cab, 170k miles, $5,000. 541-0445

1999 VW Jetta, four door, AC, automatic, AM/FM stereo, six-disc CD, 152k miles, $3,500. 536-7219

1998 Nissan Sentra, needs work, $700. 658-6353

1997 Lincoln Towncar, signature edition, loaded, $3,800. 586-7424 or 744-4015

1996 Ford Taurus LX. 509-6541

1988 Jeep Wrangler, white, tan hard top, AC, 110k miles, $5,500 OBO. 507-4356

Wanted

Small laptop computer with Wi-Fi. 777-8229

Tile work, 20 years experience. 843-513-7939

Houses to clean; elderly or children homecare. 651-4723

Used pneumatic floor nailer/stapler. 468-3749

Pasture boarding, within 20 minutes from UAH, for one horse, beginning mid-May. 468-8177

Found

Gold bracelet, Building 4200, first floor ladies room, March 26. 544-4680

Free

White poodle. 658-6353

Expedition 17/18 astronaut Chamitoff visits Marshall, hangs traditional expedition plaque


Emmett Given/MSFC

Expedition 17/18 astronaut Greg Chamitoff, left, talks to his former roommates on the International Space Station during a visit to the Marshall Space Flight Center's Payload Operations Center on April 1. Jessica Zeller, a payload communicator with a direct link to astronauts on the station, assisted Chamitoff with his call. Chamitoff stopped by the operations center to talk about his mission and to thank Marshall team members who helped him accomplish many science goals during his six months on the station. Chamitoff arrived at the space station in June 2008, living and working as a flight engineer and science officer with the Expedition 17 and 18 crews. He returned to Earth last Nov. 30 with the STS-126 mission space shuttle crew.


Emmett Given/MSFC

Chris Ruddock, left, a payload rack officer in Marshall's Payload Operations Center, looks on as astronaut Greg Chamitoff signs the Expedition 17 plaque before it was hung on the control center wall. The plaque hanging is a tradition for space station crew members when they return from their missions. The plaques commemorate the months of hard work performed by the crews and Marshall team members responsible for coordinating science activities on the International Space Station.

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